

REMARKS/ARGUMENTS

Applicants responds herein to the Office Action dated June 29, 2007.

Applicant's attorneys appreciate the Examiner's continued thorough search and examination of the present patent application.

Claims 1-10 and 12-36 are pending in this application. Claims 5, 14, 23 and 32 have been allowed. Claims 1-4, 6-10, 12, 13, 15-22, 24-31 and 33-36 have been rejected.

Claims 1-4, 10 and 12-13 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,903,717 to Sumnitsch ("Sumnitsch") in view of U.S. Patent No. 6,273,104 to Shinbara et al. ("Shinbara") and further in view of Japanese Patent Application Laid-Open No. 11-87294 ('294). Reconsideration and withdrawal of this rejection are respectfully requested.

Claims 6-9 and 15-18 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Sumnitsch in view of Shinbara in view of '294 and further in view of U.S. Patent No. 5,927,303 to Miya et al. ("Miya"). Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 19-20 and 28-29 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Sumnitsch in view of Shinbara in view of '294 and further in view of U.S. Patent No. 6,807,974 to Ono et al. ("Ono"). Reconsideration and withdrawal of this rejection are respectfully requested.

Claims 24-27 and 33-36 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Sumnitsch in view of Shinbara in further view of '294, Ono and Miya. Reconsideration and withdrawal of this rejection are respectfully requested.

Independent claims 1 and 19 recite "internal diameter of said first cylindrical part is greater than an internal diameter of said third cylindrical part." This claimed feature is illustrated in Figure 2, where the second guard is curved. This curvature enables the internal diameter of the second cylindrical part 52b, which is shown to be coaxially arranged with the substrate holding part, to be greater than an internal diameter of the third cylindrical part 52e, which branches outward from the second cylindrical part 52d and extends vertically downwardly from the lower end of the inclined part 52c.

Further, independent claim 10 recites the “lowermost chemical solution guide part is disposed such that said inclined part forming the lowermost chemical solution guide part is positioned above an outer cylindrical part forming a processing liquid passage that corresponds to the chemical solution guide part immediately overlying the lowermost chemical solution guide part.” This claimed feature is also illustrated in Figure 2, where an inclined part 52c, which forms the lowermost chemical solution guide part 52f is positioned above an outer cylindrical part 53c, which forms a processing liquid passage 53e that corresponds to the chemical solution guide part 53d immediately overlying the lowermost chemical solution guide part.

Similarly, claim 28 recites “said second guard is curved such that said inclined part forming said second guide part is positioned above said fourth cylindrical part forming said third processing liquid passage.” This recitation claims the second guard being curved such that the inclined part 52b, which forms the second guide part 52f, is positioned above the fourth cylindrical part 53c, which forms the third processing liquid passage 53e.

Furthermore, while claims 1, 10, 19, and 28 recite “an inclined part extending obliquely downwardly toward said substrate holding part from the lower end of said first cylindrical part” the inclined part of the cited prior art references, e.g., ‘294, extends upwardly toward the substrate holding part. Thus, the inclined part recited by the independent claims is not taught, disclosed, or suggested by the cited prior art references.

The above-discussed distinctive features of the independent claims of the present application were discussed in a telephone conversation between the Examiner and the Applicant’s representative on September 24, 2007. The Examiner stated that while the structural differences over the prior art of Summitsch, Shinbara, and ‘294 were now made clear, the benefit of the structural difference was not apparent. In response, the Examiner’s attention is directed to page 37, lines 15-24 of the specification, which describes the reason for, and the benefit of the invention of the independent claims as follows:

1-3. Advantages of Substrate Processing Apparatus

Firstly, in the substrate processing apparatus of the first preferred embodiment, the guard 52 is curved such that the vertical cross section of the recovery port 52f is of substantially U-shape opening toward the center of the splash guard 50, in order that the maximum internal diameter part of the recovery port 52f (the cylindrical part 52b) is brought near the guard 50. Therefore, the space between the internal wall of the recovery port 52f and the substrate W held by the spin base 10 is

increased to thereby suppress the bounce of the first chemical solution flying spattering from the substrate W that is held by the spin base 10 and rotated. This avoids that the bounced droplets attach to the substrate W and become a pollutant such as particles. (Underlining was added for emphasis.)

Thus, independent claims 1 and 10 are patentable over Summitsch, Shinbara, and '294 and independent claims 19 and 28 are patentable over Summitsch, Shinbara, '294, and Ono.

Miya was not used by the Examiner to reject the independent claims.

Claims 2-4, 6-9, 12-13, 15-18, 20, 24-29, and 33-36 depend directly or indirectly from above discussed independent claims and are, therefore, allowable for the same reasons, as well as because of the combination of features in those claims with the features set forth in the respective independent claims.

Accordingly, the Examiner is respectfully requested to reconsider the application, allow the claims as amended and pass this case to issue.

Respectfully submitted,



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